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============================================================
Sequence Listing was accepted with existing errors.
See attached Validation Report.
If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).
Reviewer: Anne Corrigan
Timestamp: Tue Jun 05 19:54:47 EDT 2007
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Application No: 10507446   Version No: 2.1

Input Set:

Output Set:

Started:	2007-06-05 19:54:40.016
Finished:	2007-06-05 19:54:40.692
Elapsed:	0 hr(s) 0 min(s) 0 sec(s) 676 ms
Total Warnings:	6
Total Errors:	6
No. of SeqIDs Defined:	10
Actual SeqID Count:	10

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E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (5)
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W 213	Artificial or Unknown found in <213> in SEQ ID (10)
E 224	<220>,<223> section required as <213> has Artificial sequence or Unknown in SEQID (10)

<110>   GOTO, Hidetsugu
        NAKANO, Shigeru

<120>   GENE PARTICIPATING IN ACETIC ACID TOLERANCE, ACETIC ACID BACTERIA
         BRED USING THE GENE, AND PROCESS FOR PRODUCING VINEGAR WITH THE
        USE OF THE ACETIC ACID BACTERIA

<130>   4439-4024

<140>   US/10/507,446
<141>   2004-09-13

<150>   PCT/JP03/02946
<151>   2003-03-12

<160>   10

<170>   PatentIn version 3.2

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<212>   DNA
<213>   Gluconacetobacter entanii

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aattttgtca tggaaatcga ggacacgctc gacgtttccg tgccgcttga ccggctggct   120

gatatccgca ccattgatga tctggctgcc tgtatcgtct ctctcaagca ggcatcctga   180

tacaccatgt cgattttctc gaaatatgaa ggccttgcgt ccgccctgtc ggcggtaacg   240

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ggcacgattt ccgcactggc gggcaaggac gattatctgc tgcttgatgc ggacagccat   600

gccagcatct atgatggcag ccgccttggc catgcgcagg tcatccgctt ccgtcacaac   660

gacgccgatg acctgcataa acgcctgcgc cgccttgatg gtacgcccgg agcgaaactg   720

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ccggaagtca tcgccgcgac catggccgcg ctgactgaac tggaaaaccg gccggaactg     1080

cgcgtgcggt tgatggacaa tgcacgcagg cttcatgacg ggctgcaggc ggccggcctg     1140

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gtggcgttct ggaaccggct gctggacctt ggggtttacg tcaacctcag cctgccgcct     1260

gcaacgcccg accagcatcc cctgctgcgg acctccgtca tggcgaccca tacgccggag     1320

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<212>  PRT
<213>  Gluconacetobacter entanii

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Pro Ile Ser Ser Thr Val Gly Leu Ile Glu Gly Arg Glu Thr Leu Leu
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Phe Gly Thr Asn Asn Tyr Leu Gly Leu Ser Gln Ser Pro Ala Ala Ile
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Glu Ala Ala Val Glu Ala Ala Arg Ala Tyr Gly Val Gly Thr Thr Gly
65                  70                  75                  80

Ser Arg Ile Ala Asn Gly Thr Gln Gly Leu His Arg Gln Leu Glu Glu
                85                  90                  95

Arg Leu Cys Thr Phe Phe Arg Arg Arg His Cys Met Val Phe Ser Thr
            100                 105                 110

Gly Tyr Gln Ala Asn Leu Gly Thr Ile Ser Ala Leu Ala Gly Lys Asp
        115                 120                 125

Asp Tyr Leu Leu Leu Asp Ala Asp Ser His Ala Ser Ile Tyr Asp Gly
    130                 135                 140

Ser Arg Leu Gly His Ala Gln Val Ile Arg Phe Arg His Asn Asp Ala
145                 150                 155                 160

Asp Asp Leu His Lys Arg Leu Arg Arg Leu Asp Gly Thr Pro Gly Ala
            165                 170                 175

Lys Leu Val Val Val Glu Gly Ile Tyr Ser Met Met Gly Asp Val Val
        180                 185                 190

Pro Met Ala Glu Phe Ala Ala Val Lys Arg Glu Thr Gly Ala Trp Leu
        195                 200                 205

Leu Ala Asp Glu Ala His Ser Val Gly Val Met Gly Glu His Gly Arg
    210                 215                 220

Gly Val Ala Glu Ser Asp Gly Val Glu Asp Asp Val Asp Phe Val Val
225                 230                 235                 240

Gly Thr Phe Ser Lys Ser Leu Gly Thr Val Gly Gly Tyr Cys Val Ser
            245                 250                 255

Asn His Ala Gly Leu Asp Leu Ile Arg Leu Cys Ser Arg Pro Tyr Met
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Phe Thr Ala Ser Leu Pro Pro Glu Val Ile Ala Ala Thr Met Ala Ala
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Leu Thr Glu Leu Glu Asn Arg Pro Glu Leu Arg Val Arg Leu Met Asp
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Asn Ala Arg Arg Leu His Asp Gly Leu Gln Ala Ala Gly Leu Arg Thr
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Gly Pro Gln Ala Ser Pro Val Val Ser Val Ile Leu Asp Asp Val Ala
                325   330   335

Val Ala Val Ala Phe Trp Asn Arg Leu Leu Asp Leu Gly Val Tyr Val
                340   345   350

Asn Leu Ser Leu Pro Pro Ala Thr Pro Asp Gln His Pro Leu Leu Arg
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Thr Ser Val Met Ala Thr His Thr Pro Glu Gln Ile Asp Arg Ala Val
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Glu Ile Phe Ala Val Val Ala Gly Glu Met Gly Ile Asn Arg Ala Ala
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<213>   Acetobacter aceti

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attttccaaa tttgaaggta cggcaggcgc gctgggttcc gttgtggccg taggcggtcg   180

caaccctttt gctgttgtta ttgaaaaacc tgtctcttca actgttggaa ttattgaagg   240

tcgggaaacg cttctttttg gcaccaataa ctatttgggg cttagtcaat ccaaaaatgc   300

cattcaagca gcccagcagg ctgccgcggc atgtggcgta ggcacaacgg gctcacgcat   360

tgcaaatggc acacaatccc tgcaccgaca gcttgaaaaa gatattgccg cgttttttgg   420

tcggcgtgat gccatggttt tttccacggg gtatcaggca aacctcggca ttatttccac   480

gctggcaggt aaggatgacc acctgtttct ggatgctgat agccacgcca gtatctatga   540

tggcagccgc ctgagtgcag cagaagttat tcgcttccgc cataatgatc agacaacct   600

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ttataaacgc cttaaacgca tggatggcac gccaggcgcc aaattgattg tggttgaagg      660

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aacaggcgct tacctgctgg tagatgaagc ccattctttt ggcgtgttgg gtcaaaatgg      780

gcgtggtgcc gctgaggctg atggcgtgga agctgatgtg actttgttg tcggcacatt       840

ttccaaaagc ttgggcacag ttggcggtta ctgcgtatct gaccatcctg agctggagtt      900

tgtgcgctta aactgccggc cctatatgtt tacggcatcg ctaccgccgg aagttattgc      960

tgccacaacg gctgccttga aagatatgca ggcacatcct gaattgcgta agcagcttat     1020

ggcaaacgcg cagcaactac atgcaggttt tgtagatatt gggctaaatg ccagcaaaca     1080

cgcaaccccca gttattgccg ttacattgga aacagctgaa gaagctattc ccatgtggaa    1140

caggcttttg gaacttggtg tttatgtaaa tctcagcctt cctccggcta caccagattc     1200

gcggccgttg ctccgttgtt ccgtaatggc cacccatacg cccgaacaaa ttgcgcaggc     1260

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Ser Val Val Ala Val Gly Gly Arg Asn Pro Phe Ala Val Val Ile Glu
            20                  25                  30


Lys Pro Val Ser Ser Thr Val Gly Ile Ile Glu Gly Arg Glu Thr Leu
        35                  40                  45


Leu Phe Gly Thr Asn Asn Tyr Leu Gly Leu Ser Gln Ser Lys Asn Ala
    50                  55                  60


Ile Gln Ala Ala Gln Gln Ala Ala Ala Ala Cys Gly Val Gly Thr Thr
65                  70                  75                  80


Gly Ser Arg Ile Ala Asn Gly Thr Gln Ser Leu His Arg Gln Leu Glu
                85                  90                  95
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Lys Asp Ile Ala Ala Phe Phe Gly Arg Arg Asp Ala Met Val Phe Ser
        100                 105                 110

Thr Gly Tyr Gln Ala Asn Leu Gly Ile Ile Ser Thr Leu Ala Gly Lys
        115                 120                 125

Asp Asp His Leu Phe Leu Asp Ala Asp Ser His Ala Ser Ile Tyr Asp
     130                 135                 140

Gly Ser Arg Leu Ser Ala Ala Glu Val Ile Arg Phe Arg His Asn Asp
145                 150                 155                 160

Pro Asp Asn Leu Tyr Lys Arg Leu Lys Arg Met Asp Gly Thr Pro Gly
                165                 170                 175

Ala Lys Leu Ile Val Val Glu Gly Ile Tyr Ser Met Thr Gly Asn Val
        180                 185                 190

Ala Pro Ile Ala Glu Phe Val Ala Val Lys Lys Glu Thr Gly Ala Tyr
        195                 200                 205

Leu Leu Val Asp Glu Ala His Ser Phe Gly Val Leu Gly Gln Asn Gly
        210                 215                 220

Arg Gly Ala Ala Glu Ala Asp Gly Val Glu Ala Asp Val Asp Phe Val
225                 230                 235                 240

Val Gly Thr Phe Ser Lys Ser Leu Gly Thr Val Gly Gly Tyr Cys Val
                245                 250                 255

Ser Asp His Pro Glu Leu Glu Phe Val Arg Leu Asn Cys Arg Pro Tyr
                260                 265                 270

Met Phe Thr Ala Ser Leu Pro Pro Glu Val Ile Ala Ala Thr Thr Ala
        275                 280                 285

Ala Leu Lys Asp Met Gln Ala His Pro Glu Leu Arg Lys Gln Leu Met
        290                 295                 300

Ala Asn Ala Gln Gln Leu His Ala Gly Phe Val Asp Ile Gly Leu Asn
305                 310                 315                 320
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Ala Ser Lys His Ala Thr Pro Val Ile Ala Val Thr Leu Glu Thr Ala
                325   330   335

Glu Glu Ala Ile Pro Met Trp Asn Arg Leu Leu Glu Leu Gly Val Tyr
                340   345   350

Val Asn Leu Ser Leu Pro Pro Ala Thr Pro Asp Ser Arg Pro Leu Leu
            355   360   365

Arg Cys Ser Val Met Ala Thr His Thr Pro Glu Gln Ile Ala Gln Ala
        370   375   380

Ile Ala Ile Phe Arg Gln Ala Ala Ala Glu Val Gly Val Thr Ile Thr
385   390   395   400

Pro Ser Ala Ala

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<210>   7
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<223> synthetic primer

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